IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant	:	Hoffberg et al
Filed	:	March 2, 1999
Serial No.	:	09/260,802
For	:	ADAPTIVE PATTERN RECOGNITION BASED CONTROLLER APPARATUS AND METHOD AND HUMAN-FACTORED INTERFACE THEREFORE
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GAU	:	2121

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APPLICANTS' APPEAL BRIEF UNDER 37 C.F.R. §1.192

Hon. Commissioner of Patents
     and Trademarks
Washington, D.C. 20231

SIR:

In response to the Office Action dated April 9, 2003, the time for response to which having been due July 9, 2003, and having been extended by Petition and payment of the appropriate fee to and including August 11, 2003, a timely Notice of Appeal having been filed on August 11, 2003, Applicants herewith provide their Appeal Brief in Triplicate.

(1)   REAL PARTY IN INTEREST

Application is unassigned, and is owned by the inventors, Steven M. Hoffberg and Linda I. Borghesani-Hoffberg.

(2)   RELATED APPEALS AND INTERFERENCES

None.

U.S. Patent Nos. 5,758,257; 5,754,939, among others, are presently the subject of infringement litigation, in which the present applicants are not parties, in <u>Pinpoint Inc. v. Amazon.com</u>, N. D. Ill (2003).

(3)   STATUS OF CLAIMS

Claims 35-65 are pending in the application.

The rejection of claims 35-65 is appealed.

Claims 1-34 and 66-114 are withdrawn from consideration as being directed toward a non-elected invention.

Applicants have Petitioned the Restriction of claims 66-114 from claims 35-66. Claims 66-114 are copied claims with an outstanding request for interference, which have never been acted upon.

(4)   STATUS OF AMENDMENTS

Applicants withdraw the proposed amendments after final rejection to claims 35 and 40. These were indicated to include new issues in the Advisory Action dated August 15, 2003. No amendments are therefore pending.

(5)   SUMMARY OF INVENTION

The present invention provides an advanced user interface system, which, for example, provides control over a consumer media device such as a VCR or other such media recorder. Particular attributes include both user-characterization, content-characterization, which are used, for example, to achieve predictive execution.

A number of heuristics are optionally employed to facilitate operation, such as use of preformed characterizations, e.g., electronic program guides, and timeslot characterization of programming. In addition, "brute force" techniques are also described for defining both user profiles and content profiles.

The system can be used as a so-called "recommender", that is, a system which offers a user a personalized presentation including a subset of available options and/or a ranked set based on an intelligent analysis of the user and available options. Common present uses for recommenders are media, books, and physical goods.

Applicants below seek to present specific support for each claim element by reference (page, lines and/or reference numerals) to the specification and drawings. Efforts have been made to focus on demonstrating support in Examples 2 and 4, where appropriate, with ancillary reference to other portions of the specification. It should be understood that support for the claims is not limited to these citations, and the claims should not be construed as being limited to encompassing these embodiments.

35. An apparatus, comprising:

means for storing a plurality of content records;

> Page 162, lines 22-23; page 168, lines 8-10; 2508.

means for accessing the content records;

> Page 184, lines 3-6.

means for storing a persistent user-specific profile;

> Page 161, lines 11-21; 1702; 2406.

means for relating content records with a stored user profile;

> Page 163, lines 12-15; 2412.

means for presenting to the user the related content records;

> Page 162, lines 23-25; 2405.

means for receiving a user feedback on said relation; and

Page 162, lines 19-21; Page 166, lines 5-9; 2401

means for updating the user profile based on said the feedback.

Page 167, lines 13-21.

36. The apparatus according to claim 35,

wherein said apparatus is an information access system for automatically presenting users with information items of interest;

Page 159, line 15-Page 160, line 15; Page 162, lines 10-13.

wherein said content records storing means comprises a computer system containing a database of information items available to be presented to users of the system;

Page 160, line 22-Page 161, line 15; Page 162, line 3; Page 181, line 2-3; Page 184, lines 3-6; Page 185, lines 7-18.

wherein said accessing means comprises at least one access device for enabling users to communicate with the computer system and access any of the items of available information;

Page 184, lines 3-6; Page 185, lines 7-18.

wherein said user profile storing means stores a user profile for each user having access to the available items of information;

Page 161, lines 22-23; page 165, lines 8-21; page 107, lines 14-19.

wherein said relating means comprises means for ranking a likely degree of interest for each of the available items of information in accordance with a user profile;

Page 162, lines 10-16; Page 165, line 22-page 166, line 16; page 180, lines 17-19.

wherein said presenting means presents the items of information to an access device in order of ranking and enabling a user to retrieve each item;

Page 184, lines 3-6; page 186, lines 20-23; page 162, lines 10-13.

wherein said feedback receiving means comprises means for enabling the user to indicate that user's interest in each retrieved item of information; and

Page 163, lines 1-3; Page 166, lines 9-12, lines 24-25.

wherein said updating means comprises means for updating the user's profile in response to indications of interest provided by the user.

Page 161, line 16-page 162, line 3; page 162, line 25-page 163, line 3.

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37. The apparatus of claim 36, wherein said ranking means ranks the available items of information for a user on the basis of at least one attribute pertaining to each item of information.

Page 162, lines 7-16.

38. The apparatus of claim 37, wherein said attribute is the contents of the item of information.

Page 163, lines 3-9; page 167, lines 13-25; page 168, lines 17-24.

39. The apparatus of claim 36, wherein said ranking means produces a formula which predicts the interest of a user in an item of information on the basis of at least one of a user profile and an attribute related to that item of information.

Page 162, lines 7-13, line 17-page 163, line 20.

40. A method, comprising:

storing a plurality of content records;

Page 162, lines 22-23; page 168, lines 8-10; 2508.

storing a persistent user-specific profile;

Page 161, lines 11-21; 1702; 2406.

receiving a user request for content records;

Page 184, lines 3-6.

relating content records with a stored user profile; and

Page 163, lines 12-15; 2412.

presenting to the user the related content records.

Page 162, lines 23-25; 2405.

41. The method according to claim 40, for providing information to users of a computer system, wherein:

said content record storing step comprises storing items of information in an unstructured database within the computer system;

Page 181, lines 1-25; Page 183, lines 8-16.

said user profile storing step comprises determining and storing user profiles for users of the computer system who have access to the items of information;

Page 161, lines 22-23; page 165, lines 8-21.

said receiving a request step comprises receiving a request from a user for access to the stored information;

Page 184, lines 3-6; Page 185, lines 7-18.

said relating step comprises determining a user's likely degree of interest in items of information stored in said database, in accordance with that user's profile, and ranking the items of information in accordance with their determined degrees of interest; and

Page 162, lines 10-16; Page 165, line 22-page 166, line 16; page 180, lines 17-19.

said presenting step comprises displaying the items of information with an indication of their relative rankings.

Page 184, lines 3-6; page 186, lines 20-23; page 162, lines 10-13.

42. The method of claim 41, wherein said items of information are displayed in order of their ranking.

Page 184, lines 3-6; page 186, lines 20-23; page 162, lines 10-13.

43. The method of claim 41, wherein the user profiles and the determined degree of interest in items of information are based upon at least one attribute associated with each item of information.

Page 162, lines 7-16.

44. The method of claim 43, wherein said attribute is the content of the item of information.

Page 163, lines 3-9; page 167, lines 13-25; page 168, lines 17-24.

45. The method of claim 41, further including the steps of selecting an item of information from those which are displayed,

Page 184, lines 3-6.

providing an indication of the user's actual interest in the selected item of information,

Page 68, line 21-page 69, line 3; page 108, lines 16-19, page 159, lines 19-20. and storing the user's indicated interest.

Page 161, lines 16-21; page 162, line 25-page 163, line 1.

46. The method of claim 41, wherein the likely degree of interest is determined for all of the items of information stored in said database in response to receipt of a user's request for access.

Page 162, lines 7-16; page 163, lines 12-15; page 165, line 22-page 166, line 16.

47. A method, comprising the steps of:

automatically generating a user-specific profile representing an interest summary based on a history of access to objects; and

Page 161, lines 11-23; Page 165, lines 8-21; page 107, lines 14-19; page 167, lines 13-21; 1702; 2406.

persistently storing the user profile in memory.

Page 161, line 11-page 162, line 3, and line 25-page 163, line 3; 1702; 2406.

48. The method of claim 47, for providing a user with access to selected ones of a plurality of target objects and

Page 184, lines 3-6; page 185, lines 7-18.

sets of target object characteristics

Page 181, lines 1-10; page 184, lines 3-19, page 185, lines 11-14.

that are accessible via an electronic storage media,

Page 181, lines 1-3; page 183, lines 8-19; page 184, lines 3-6.

where said user is connected via user terminals and data communication connections to a target server system which accesses said electronic storage media, wherein:

Page 186, lines 16-23; page 175, lines 11-17; page 170, lines 7-10; page 160, line 22-page 161, line 15; page 91, lines 7-14; page 92, lines 8-16.

said automatically generating step generates at least one user target profile interest summary for a user at a user terminal, each of said user target profile interest summary being

indicative of ones of said target objects and sets of target object characteristics accessed by said user; and

Page 165, line 22-page 166, line 3; page 167, lines 13-21.

said storing step stores said at least one user target profile interest summary in a memory.

Page 161, lines 11-21; 2406; page 163, lines 12-17.

49. The method of claim 48, further comprising the steps of:

enabling said user to access said plurality of target objects and sets of target object characteristics stored on said electronic storage media via said user target profile interest summaries;

Page 184, lines 3-19; page 185, lines 7-18; Page 181, lines 1-10; Page 181, lines 1-3; page 183, lines 8-19.

said step of enabling access comprising:

correlating said user target profile interest summaries, generated for said user, with target profiles generated for said plurality of target objects and sets of target object characteristics to identify ones of said plurality of target objects and sets of target object characteristics stored on said electronic storage media that are likely to be of interest to said user;

Page 163, lines 12-17.

transmitting a list, that identifies at least one of said identified ones of said plurality of target objects and sets of target object characteristics, to said user; and

Page 165, line 14-page 166, line 7.

providing access to a selected one of said plurality of target objects and sets of target object characteristics stored on said electronic storage media in response to said user selecting an item from said list;

Page 183, lines 8-15; page 184, lines 3-6; page 185, lines 11-18; page 186, lines 16-23.

said step of providing access further comprising:

transmitting data, in response to said user activating said user terminal to identify said selected item on said list, indicative of said user's selection of said selected item from said user terminal to said target server via a one of said data communication connections;

Page 161, lines 9-10.

retrieving, in response to receipt of said data from said user terminal, a one of a target object and set of target object characteristics identified by said selected item from said electronic storage media; and

> Page 184, lines 3-6.

transmitting said retrieved one of said target object and set of target object characteristics to said user terminal for display thereon to said user,

> Page 196, line 12-page 197, line 12; page 91, lines 1-7; page 92, lines 3-22; page
> 161, lines 10-11.

said step of automatically generating comprising:

automatically updating said user target profile interest summary for said user as a function of said target objects and sets of target object characteristics retrieved by said user.

> Page 161, lines 11-23; Page 165, lines 8-21; page 107, lines 14-19; page 167,
> lines 13-21; 1702; 2406.

50. The method of claim 48, wherein said automatically generating step comprises:

creating a customer profile, said customer profile indicating a respective customer's preferences for data;

> Page 91, lines 7 & 19-22; 2406.

monitoring a history of data objects accessed by the customer; and

> Page 162, line 25-page 163, line 3.

automatically updating the customer profile in accordance with the content profiles accessed by the customer to automatically update the customer profile to represent the customer's preferences.

> Page 161, lines 11-23; Page 165, lines 8-21; page 107, lines 14-19; page 167,
> lines 13-21; 1702; 2406.

51. The method of claim 47, wherein said method is for scheduling customer access to data from a plurality of data sources,

> Page 163, lines 21-23; page 165, line 22-page 167, line 12.

further comprising the steps of:

creating content profiles for each data source of said data, said content profiles indicating a degree of content of predetermined characteristics in data from each data source;

> Page 169, line 13-page 175, line 17.

said generating step comprises creating at least one customer profile for each eligible recipient of said data, said customer profile indicating a customer's preferences for data having predetermined characteristics;

> Page 169, line 13-page 175, line 17.

> monitoring which data sources are actually accessed by each recipient; and

> page 107, lines 14-19; Page 161, lines 16-19; page 162, line 25-page 163, line 3.

updating, without input from each customer, each customer profile in accordance with the content profiles of the data sources actually accessed by that customer to automatically update each customer's actual preferences for said predetermined characteristics.

> Page 162, line 25-page 163, line 3.

52. The method of claim 47, wherein said method is for scheduling customer access to video programs,

> Page 165, line2 22-25.

further comprising the steps of:

creating content profiles for each video program available for viewing, said content profiles indicating a degree of content of predetermined characteristics in each video program;

> Page 169, line 13-page 175, line 17.

creating at least one customer profile for each customer of said video programs, said customer profile indicating a customer's preferences for predetermined characteristics of the video programs;

> Page 162, line 17-page 163, line 20; page 180, lines 17-19.

monitoring which video programs are actually viewed by each customer; and

> page 107, lines 14-19; Page 161, lines 16-19; page 162, line 25-page 163, line 3.

updating, without input from each customer, each customer profile in accordance with the content profiles of the video programs actually viewed by that customer to automatically update each customer's actual preferences for said predetermined characteristics.

> Page 162, line 25-page 163, line 3.

53. The method of claim 52, comprising the further steps of receiving customer identity information and determining from said customer identity information which customer profile to update in said updating step.

Page 165, lines 7-21.

54. The method of claim 47, wherein said method is for scheduling customer access to data from a plurality of data sources, further comprising the steps of:

Page 163, lines 21-23; page 165, line 22-page 167, line 12.

creating a customer profile for each customer of said plurality of data sources, said customer profile indicating a customer's preferences for predetermined characteristics of the data sources;

Page 162, line 17-page 163, line 20; page 180, lines 17-19.

monitoring which data sources are actually accessed by each customer; and

page 107, lines 14-19; Page 161, lines 16-19; page 162, line 25-page 163, line 3.

updating each customer profile to reflect a frequency of selection of the data sources by customers with customer profiles substantially similar to said each customer profile.

Page 162, line 25-page 163, line 3; page 132, lines 19-24; page 85, lines 1-2.

55. An apparatus, comprising:

means for automatically generating a user-specific profile representing an interest summary based on a history of access to objects; and

Page 161, lines 11-23; Page 165, lines 8-21; page 107, lines 14-19; page 167, lines 13-21; 1702; 2406.

a memory for persistently storing the user profile.

Page 161, line 11-page 162, line 3, and line 25-page 163, line 3; 1702; 2406.

56. The apparatus according to claim 55, for providing a user with access to selected ones of a plurality of target objects

Page 184, lines 3-6; page 185, lines 7-18.

and sets of target object characteristics

Page 181, lines 1-10; page 184, lines 3-19, page 185, lines 11-14.

that are accessible via an electronic storage media,

Page 181, lines 1-3; page 183, lines 8-19; page 184, lines 3-6.

where said user is connected via user terminals and data communication connections to a target server system which accesses said electronic storage media, comprising:

Page 186, lines 16-23; page 175, lines 11-17; page 170, lines 7-10; page 160, line 22-page 161, line 15; page 91, lines 7-14; page 92, lines 8-16.

means for automatically generating at least one user target profile interest summary for a user at a user terminal, each of said user target profile interest summaries being indicative of ones of said target objects and sets of target object characteristics accessed by said user; and

Page 165, line 22-page 166, line 3; page 167, lines 13-21.

means for storing said at least one user target profile interest summary in a memory.

Page 161, lines 11-21; 2406; page 163, lines 12-17.

57. The apparatus of claim 56, further comprising:

means for enabling said user to access said plurality of target objects and sets of target object characteristics stored on said electronic storage media via said user target profile interest summaries;

Page 184, lines 3-19; page 185, lines 7-18; Page 181, lines 1-10; Page 181, lines 1-3; page 183, lines 8-19.

said means for enabling access comprising:

means for correlating said user target profile interest summaries, generated for said user, with target profiles generated for said plurality of target objects and sets of target object characteristics to identify ones of said plurality of target objects and sets of target object characteristics stored on said electronic storage media that are likely to be of interest to said user;

Page 163, lines 12-17.

means for transmitting a list, that identifies at least one of said identified ones of said plurality of target objects and sets of target object characteristics, to said user; and

Page 165, line 14-page 166, line 7.

means for providing access to a selected one of said plurality of target objects and sets of target object characteristics stored on said electronic storage media in response to said user selecting an item from said list;

> Page 183, lines 8-15; page 184, lines 3-6; page 185, lines 11-18; page 186, lines 16-23.

said means for providing access comprising:

means for transmitting data, in response to said user activating said user terminal to identify said selected item on said list, indicative of said user's selection of said selected item from said user terminal to said target server via a one of said data communication connections;

> Page 161, lines 9-10.

means for retrieving, in response to receipt of said data from said user terminal, a target object identified by said selected item from said electronic storage media; and

> Page 184, lines 3-6.

means for transmitting said retrieved target object to said user terminal for display thereon to said user;

> Page 196, line 12-page 197, line 12; page 91, lines 1-7; page 92, lines 3-22; page
> 161, lines 10-11; page 67, lines 1-4.

said means for automatically generating comprising:

means for automatically updating said user target profile interest summary for said user as a function of said target objects and sets of target object characteristics retrieved by said user.

> Page 161, lines 11-23; Page 165, lines 8-21; page 107, lines 14-19; page 167,
> lines 13-21; 1702; 2406.

58. A system, comprising:

a persistent customer profile, said customer profile indicating a respective customer's preferences for data;

> Page 91, lines 7 & 19-22; 2406.

means for monitoring a history of data objects accessed by the customer; and

> Page 162, line 25-page 163, line 3.

means for automatically updating the customer profile in accordance with content profiles accessed by the customer to automatically update the customer profile to represent the customer's preferences.

Page 161, lines 11-23; Page 165, lines 8-21; page 107, lines 14-19; page 167, lines 13-21; 1702; 2406.

59. The system according to claim 58, for scheduling customer access to data from a plurality of data sources, further comprising:

Page 163, lines 21-23; page 165, line 22-page 167, line 12.

content profiles for each data source of said data, said content profiles indicating a degree of content of predetermined characteristics in data from each data source;

Page 169, line 13-page 175, line 17.

wherein:

at least one customer profile for each eligible recipient of said data is provided, said customer profile indicating the customer's preferences for data having predetermined characteristics;

Page 162, line 17-page 163, line 20; page 180, lines 17-19.

said monitoring means monitors which data sources are actually accessed by each recipient; and

page 107, lines 14-19; Page 161, lines 16-19; page 162, line 25-page 163, line 3.

said updating means updates, without input from each customer, each customer profile in accordance with the content profiles of the data sources actually accessed by that customer to automatically update each customer's actual preferences for said predetermined characteristics.

Page 162, line 25-page 163, line 3.

60. The system according to claim 58, for scheduling customer access to video programs received from a video head end, further comprising:

Page 164, line 23-page 165, line 1.

content profiles for each video program available for viewing, said content profiles indicating a degree of content for predetermined characteristics in each video program;

Page 169, line 13-page 175, line 17.

wherein:

at least one customer profile for each customer of said video programs is provided, said customer profile indicating the customer's preferences for predetermined characteristics of the video programs;

Page 169, line 13-page 175, line 17.

said means for monitoring monitors which video programs are actually viewed by each customer; and

page 107, lines 14-19; Page 161, lines 16-19; page 162, line 25-page 163, line 3.

said means for updating updates, without input from each customer, each customer profile in accordance with the content profiles of the video programs actually viewed by that customer to automatically update each customer's actual preferences for said predetermined characteristics.

Page 162, line 25-page 163, line 3, page 103, lines 14-16; page 107, lines 23-25.

61. The system as in claim 60, further comprising:

means for transmitting said content profiles to each customer along with electronic program guide data for upcoming television viewing periods.

Page 160, lines 7-10; page 163, lines 9-12; 2411; 2410; page 164, lines 16-18; page 175, lines 11-17.

62. The system as in claim 60, further comprising means for inputting customer identity information and for determining from said customer identity information which customer profile to update with said updating means.

Page 165, lines 7-21.

63. The system according to claim 60, for scheduling customer access to data provided by a plurality of data sources, further comprising:

Page 163, lines 21-23; page 165, line 22-page 167, line 12.

means for creating a customer profile for each customer of said plurality of data sources, said customer profile indicating said customer's preferences for predetermined characteristics of the data sources;

Page 162, line 17-page 163, line 20; page 180, lines 17-19.

said monitoring means monitors which data sources are actually accessed by each customer; and

> page 107, lines 14-19; Page 161, lines 16-19; page 162, line 25-page 163, line 3.

said updating means updates each customer profile to reflect a frequency of selection of the data sources by customers with customer profiles substantially similar to said each customer profile.

> Page 162, line 25-page 163, line 3; page 132, lines 19-24; page 85, lines 1-2.

64. The system according to claim 58, being a multimedia terminal for receiving data from a plurality of data sources, further comprising:

> Page 120, lines 14-17; Page 163, lines 21-23; page 165, line 22-page 167, line 12.

means for storing at least one customer profile indicating a customer's preferences for data having predetermined characteristics;

> Page 161, lines 11-21; page 163, lines 12-17; 1702; 2406.

means for storing content profiles for each data source of said data, said content profiles indicating a degree of content of said predetermined characteristics in data from each data source;

> Page 169, line 13-page 175, line 17.

means for inputting recipient identity information;

> Page 165, lines 7-21.

means for selecting different customer profiles which correspond to said recipient identity information in accordance with the time of day and day of the week;

> Page 160, lines 1-17; page 165, line 22-page 167, line 12; 1702.

processing means for relating said selected customer profiles with the content profiles for the data available from each data source to the customer at a particular time and for determining a subset of data having content profiles which most closely match said selected customer profile; and

> Page 160, lines 7-15; Page 165, lines 7-21; page 88, lines 21-25; page 170, line 1-page 171, line 9.

a display guide for presenting said subset of data to said customer for selection.

> Page 160, lines 7-15; page 163, lines 9-12

65. The system as in claim 64, further comprising means for storing an electronic program guide, wherein said display guide highlights programs within said electronic program guide which correspond to said subset of data.

Page 160, lines 7-10; page 86, line 22-page 87, line 1; page 184, lines 3-6; page 186, lines 16-23.

(6)   ISSUES

(a)   Whether Claims 36-39, 41-46, 48-54, 56, 57, and 59-65 unpatentable under 35 U.C.S. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

(b)   Whether claims 35-40, 47, 48, 50-52, 54-56, 58-60 and 63 are obvious under 35 U.S.C. § 103(a) as being unpatentable over Yourick et al. (US 4,775,935) in further view of Lockwood (US 4,567,359).

(c)   Whether an Interference should be declared between claims 35-39, 40-46, and 47-65, and U.S. Patent Nos. 5,724,567; 5,758,257; and 5,754,939, respectively, which applicants assert are directed to the same invention.

(7) GROUPING OF CLAIMS

The rejected claims of the application do not stand or fall together. Applicants request that each appealed claim be considered on its own merits.

37 C.F.R. § 1.192(c)(7) requires a statement as to why the claims of the group do not stand or fall together. Applicants hereinbelow provide reference to at least one element of each claim which is believed to distinguish the other independent claims, and/or a respective parent claim.

Claims 35 and 40 are similar apparatus and method claims, respectively; however, the elements thereof to not directly correspond, and in particular, claim 35 has means for accessing and means for updating, which have no correspondence in claim 40.

Claim 36 requires a database of information items available, and individual user profiles, and is therefore distinguished from claim 35.

Claim 37 is distinguished by at least its ranking means.

Claim 38 is distinguished in that it defines the attribute.

Claim 39 is distinguished in that it provides that the ranking predicts a user interest.

Claim 41 is distinguished in at least that the items of information are stored in an unstructured database.

Claim 42 is distinguished in that the items of information are displayed in order of ranking.

Claim 43 is distinguished in that the user profiles and the determined degree of interest in items of information are based upon at least one attribute associated with each item of information.

Claim 44 is distinguished in that the attribute is the content of the item of information.

Claim 45 is distinguished in that the method provides an indication of the user's actual interest in the selected item of information, and stores the user's indicated interest.

Claim 46 is distinguished in that the likely degree of interest is determined for all of the items of information stored in said database in response to receipt of a user's request for access.

Claim 47 is distinguished in that a user-specific profile representing an interest summary based on a history of access to objects is generated, and persistently stored.

Claim 48 is distinguished in that a user is connected via user terminals and data communication connections to a target server system which accesses said electronic storage media.

Claim 49 is distinguished in that the user is enabled to access the plurality of target objects and characteristics via the user target profile interest summaries, in which the user target profile interest summaries are correlated with target profiles to identify target objects that are likely to be of interest to the user, which are then transmitted to the user for selection thereof and retrieval for display.

Claim 50 is distinguished in that the customer profile is automatically generated, indicating a respective customer's preferences for data, a history of data objects access is stored, and the customer profile automatically updated.

Claim 51 is distinguished in that content profiles are created, indicating a degree of content of predetermined characteristics in data from each data source, a data preference customer profile is generated, data sources actually accessed by each recipient are monitored, and the customer profile is updated without user input in accordance with the content profiles of the data sources actually accessed by that customer.

Claim 52 is distinguished in that the method is for scheduling customer access to video programs, with content profiles indicating a degree of content of predetermined characteristics in each video program, a video preference customer profile is created, video programs actually viewed by each customer are monitored, and the customer profile is updated, without customer input, in accordance with the content profiles of the video programs actually viewed by that customer.

Claim 53 is distinguished in that customer identity information is received, and used to determine which customer profile to update in said updating step.

Claim 54 is distinguished in that the method is for scheduling customer access to data from a plurality of data sources, a data preference customer profile is created, data sources actually accessed by each customer are monitored, and the customer profile is updated to reflect a frequency of selection of the data sources by customers with customer profiles substantially similar to each customer profile.

Claim 55 is distinguished in that at least it includes means for automatically generating a user-specific profile representing an interest summary based on a history of access to objects, and a memory for persistently storing the user profile.

Claim 56 is distinguished in that a user, connected via user terminals and data communication connections, to a target server system which accesses electronic storage media, is provided with access to selected target objects and sets of target object characteristics, means are provided for automatically generating at least one user target profile interest summary for a user at a user terminal, each of said user target profile interest summaries being indicative of ones of said target objects and sets of target object characteristics accessed by said user, and means storing the user target profile interest summary in a memory.

Claim 57 is distinguished in that it provides means for enabling said user to access the plurality of target objects and sets of target object characteristics via the user target profile interest summaries, means for correlating the user target profile interest summaries with target profiles, to identify target objects and sets of target object characteristics that are likely to be of interest to said user, and means are provided for transmitting a list of identifications to said user, and means for providing access to a selected item from the list.

Claim 58 is distinguished in that it provided a persistent customer profile, indicating a respective customer's preferences for data, means for monitoring a history of data objects accessed by the customer, and means for automatically updating the customer profile in accordance with content profiles accessed by the customer to automatically update the customer profile to represent the customer's preferences.

Claim 59 is distinguished in that it provides a system for scheduling customer access to data from a plurality of data sources, providing content profiles for each data source of said data, customer profiles indicating the a customer's data preferences, monitoring data sources actually accessed by each recipient, and updating the customer profile, without input from each customer, in accordance with the content profiles of the data sources actually accessed by that customer.

Claim 60 is distinguished in that it is for scheduling customer access to video programs received from a video head end.

Claim 61 is distinguished in that means are provided for transmitting the content profiles to each customer along with electronic program guide data for upcoming television viewing periods.

Claim 62 is distinguished in that means are provided for inputting customer identity information and for determining from the customer identity information which customer profile should be updated.

Claim 63 is distinguished in that is provides means for creating customer profiles indicating a customer's data preferences, means for monitoring data sources actually accessed by each customer, with each customer profile updated to reflect a frequency of selection of the data sources by customers with customer profiles substantially similar to each customer profile.

Claim 64 is distinguished in that it is a multimedia terminal for receiving data from a plurality of data sources, providing means for storing at least one customer profile indicating a customer's data preferences, means for storing data source content profiles, means for inputting recipient identity information and selecting corresponding customer profiles in accordance with the time of day and day of the week, means for relating the selected customer profiles with the data source content profiles available at a particular time and for determining a subset of data having content profiles which most closely match a selected customer profile, and a display guide for presenting the subset of data to the customer for selection.

Claim 65 is distinguished in that it stores an electronic program guide, highlighting programs which correspond to the matching subset of data.

(8)   ARGUMENT

35 U.S.C. § 112, FIRST PARAGRAPH REJECTIONS

Claims 36-39, 41-46, 48-54, 56, 57, and 59-65 are rejected under 35 U.S.C. § 112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The Examiner has committed error in determining that the specification fails to describe the claimed invention of each dependent claim.

It is noted that the discussed "correlation index" is inherently a ranking. (See claim 36). The target profile summary corresponds to the analysis and characterization of the signal, which are automatically generated. (See claims 48 and 56). Content profiles are similar to target profile summaries; these result from either manual or automatic characterization of the content, each of which is disclosed in the specification. (See claims 51, 52, 59, 60 and 64). The specification discloses both tracking of user interaction history, which inherently encompasses frequency of selection, as well as directly discussing "frequently used choices". Further, the specification discusses classification of a user, e.g., "novice", and their expected characteristics. The system determines user class characteristics, such as frequency of selection, and uses these in processing the user history data to make predictions. As such, each customer profile is updated "to reflect" the frequency of selection of the data sources by customers with customer profiles substantially similar to each customer profile. (See claim 54).

Claims 36, and 41 are rejected as failing to be supported by a specification which discloses: Automatically presenting users items of interest; A storing means comprising a computer system; A relating means comprising means for ranking a likely degree of interest; and Presenting it in order of ranking.

In fact, the disclosure clearly states at Page 159, line 15-Page 160, line 15; Page 162, lines 10-13, that the system automatically presents users with items of interest.

Likewise, the disclosure clearly states at Page 160, line 22-Page 161, line 15; Page 162, line 3; Page 181, line 2-3; Page 184, lines 3-6; Page 185, lines 7-18 that the storing means comprises a computer system.

The disclosure further states at Page 162, lines 10-16; Page 165, line 22-page 166, line 16; page 180, lines 17-19 that the relating means comprises means for ranking a likely interest.

Finally, the disclosure states at Page 184, lines 3-6; page 186, lines 20-23; page 162, lines 10-13 that the items are presented in order of ranking.

Claim 37 is rejected because the application allegedly fails to disclose ranking user information on the basis of at least [one] attribute.

In fact, this feature is disclosed in the specification on Page 162, lines 7-16.

Claim 38 is rejected because the application allegedly fails to disclose that the attribute is the contents of the item of information.

This feature is disclosed on Page 163, lines 3-9; page 167, lines 13-25; page 168, lines 17-24.

Claim 39 is rejected because the application allegedly fails to disclose: The ranking means producing a formula for predicting an item on the basis of a user profile [and] item attribute.

This is disclosed on Page 162, lines 7-13, line 17-page 163, line 20.

Claim 43 is rejected because the application allegedly fails to disclose: The user profiles and degree of interest are based on one attribute of each item.

This is disclosed on Page 162, lines 7-16.

Claims 48 and 56 are rejected because the application allegedly fails to disclose: A target server system; At least one target profile summary being indicative of target objects and sets of target object characteristics; Storing user target profile interest summary.

The target server system is disclosed on Page 186, lines 16-23; page 175, lines 11-17; page 170, lines 7-10; page 160, line 22-page 161, line 15; page 91, lines 7-14; page 92, lines 8-16.

The at least one target profile summary being indicative of target objects and sets of target object characteristics is disclosed on Page 165, line 22-page 166, line 3; page 167, lines 13-21.

Storing the target profile interest summary is disclosed on Page 161, lines 11-21; 2406; page 163, lines 12-17.

Claim 51 is rejected because the application allegedly fails to disclose: Creating content profiles; Content profiles indicating the degree of content of said predetermined characteristics; Creating a customer profile for each eligible recipient.

Creating content profiles, indicating the degree of content of said predetermined characteristics is disclosed on Page 169, line 13-page 175, line 17.

Creating content profiles for each eligible recipient is disclosed on Page 169, line 13-page 175, line 17.

Claims 52 and 60 are rejected because the application allegedly fails to disclose: Content profiles indicating the degree of content of said predetermined characteristics in each video program; Automatically updating customers actual preferences for said predetermined characteristics.

Content profiles indicating the degree of content of said predetermined characteristics in each video program are disclosed on Page 169, line 13-page 175, line 17.

Automatically updating customers actual preferences for said predetermined characteristics is disclosed on Page 162, line 25-page 163, line 3.

Claim 54 is rejected because the application allegedly fails to disclose: Updating customer profiles to reflect the frequency of selection of the data sources.

This frequency-dependent updating is believed to be disclosed on Page 162, line 25-page 163, line 3; page 132, lines 19-24; page 85, lines 1-2.

Claim 57 is rejected because the application allegedly fails to disclose: Means for correlating; Means for transmitting; Transmitting data...from said target server via a data communications connections.

The means for correlating is disclosed on Page 163, lines 12-17.

The means for transmitting is disclosed on Page 165, line 14-page 166, line 7.

The transmission of data from a target server, through communications connections, is disclosed on Page 161, lines 9-10.

Claims 59 and 64 are rejected because the application allegedly fails to disclose: Content profiles indicating the degree of content of said predetermined characteristics in each data source.

These content profiles are disclosed on Page 169, line 13-page 175, line 17.

Therefore, it is respectfully submitted that applicant has set forth evidence that it was in possession of the claimed invention as of the filing date, and that the specification is enabling for the manufacture and use of the claimed invention.

35 U.S.C. § 103 REJECTIONS

Claims 35-40, 47, 48, 50-52, 54-56, 58-60 and 63 are rejected under 35 U.S.C. § 103 as being obvious in view of Yourick et al. (US 4,775,935), further in view of Lockwood (US 4,567,359).

The Examiner previously agreed that Yourick et al. is deficient with respect to the rejected claims in that it does not teach persistent storage of user-specific data; therefore Lockwood was cited to supply the missing teachings. In fact, Lockwood does teach the well known proposition that user-specific files or "profiles" may be stored electronically. This, however, does not remedy the specific deficiencies of Yourick et al.

In particular, these references together do not provide an enabling disclosure, allowing one of ordinary skill in the art, at the time the invention was made, to make or use the presently claimed invention. In particular, neither reference alone, nor in combination, teaches or suggests how user-specific, persistently stored data may be used to relate content records with a user-specific profile. Yourick et al. teach a system which operates on population preferences, without regard to user identity or characteristics. Lockwood does not relate to interests or preferences at all, and thus does not remedy this deficiency. There are a number of impediments to constructing a system which accounts for long-term inter-user variability, or user-specific characteristics, which are neither taught nor suggested by the references.

One particular problem presented by the Yourick et al. model is that it initializes operation for each user without regard for demonstrated past user actions. A user need not introduce nor identify himself to the system, since user identification is irrelevant. The system stores, if at all, an aggregate profile of users, segregated only according to diurnal and weekly patterns, but not by identity. Because of this architecture, the user interface is considerably simplified over a kiosk system which requires user identification. Likewise, the functionality is constrained, due to the limited information available.

Simply proposing the addition of a user-specific profile, such as disclosed by Lockwood, thus does not remediate the deficiencies of Yourick et al. The failure of either applied reference to disclose a particular use for user-specific profiles in the context of a "recommender" system thus fails to present any motivation or suggestion to combine the references.

The system of Yourick et al. is apparently intended to promote an initial sale. If it were to store a user history, it would have to predict, based on both explicitly expressed preferences

(user feedback) and/or implicitly expressed preferences (consummated sales), a subsequent interest or preference of a user. In order to use this information, a further inquiry may be required, for example, into the role of the user. Is the item a gift? Does a person need two toasters? How long does a toaster last, such that an inferred negative preference for buying a second toaster becomes a positive preference to replace the old toaster? Etc.... Thus, in order to provide a meaningful suggestion to store a user-specific profile, the references, as a whole, must provide some particular use for this stored user-specific profile, as well as an enabling description of such a use.

An analysis of the theory of operation of the system described by Yourick et al., leads to discovery of further issues. If a user operates the system a second time, does the system operation proceed identically? If during the initial use, the user transacted a purchase of the suggested item, is it appropriate to propose a subsequent purchase of the same item? If, on the other hand, the user did not transact a purchase of the suggested item, does the system seek to sell the same item again? Clearly, if one is to find "means for relating content records with a stored user profile", or the step of "relating content records with a stored user profile", as required by claims 35 and 40, in Yourick et al., this relation must be dependent on the stored user-specific profile, and not independent thereof. There is simply no teaching or suggestion of this aspect of the present invention in either Yourick et al. or Lockwood.

It is also noted that one result of persistent user-specific profiles which are used to infer interest or preferences is that the information content of the database grows continually. Yourick et al. describe a system in which the database does not appreciably grow or evolve through use, and therefore it might be inferred that such growth might be considered disadvantageous.

Lockwood describe that a "quotation history file stored in memory is up-dated...." However, Lockwood does not describe at all how this stored quotation history file is used, nor does it suggest a purpose therefore. Fig. 6 may be interpreted to indicate that the "history file" is used to "locate prior quote", and therefore is in no way updated by user feedback or involved in determination of user interest or preferences.

Applicants therefore respectfully submit that the combination of Yourick et al. and Lockwood fail to set forth a prima facie case of obviousness, and thus fail to render the present claims obvious.

CONCLUSION

For the forgoing reasons, it is respectfully submitted that the outstanding rejections under 35 U.S.C. § 112, first paragraph, and 35 U.S.C. § 103 should be reversed, and the application considered allowable, so that the proposed interference may proceed.
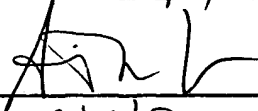
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By _____

Date _9/19/03_

CLAIMS APPENDIX

35. An apparatus, comprising:

means for storing a plurality of content records;

means for accessing the content records;

means for storing a persistent user-specific profile;

means for relating content records with a stored user profile;

means for presenting to the user the related content records;

means for receiving a user feedback on said relation; and

means for updating the user profile based on said the feedback.

36. The apparatus according to claim 35,

wherein said apparatus is an information access system for automatically presenting users with information items of interest;

wherein said content records storing means comprises a computer system containing a database of information items available to be presented to users of the system;

wherein said accessing means comprises at least one access device for enabling users to communicate with the computer system and access any of the items of available information;

wherein said user profile storing means stores a user profile for each user having access to the available items of information;

wherein said relating means comprises means for ranking a likely degree of interest for each of the available items of information in accordance with a user profile;

wherein said presenting means presents the items of information to an access device in order of ranking and enabling a user to retrieve each item;

wherein said feedback receiving means comprises means for enabling the user to indicate that user's interest in each retrieved item of information; and

wherein said updating means comprises means for updating the user's profile in response to indications of interest provided by the user.

37. The apparatus of claim 36, wherein said ranking means ranks the available items of information for a user on the basis of at least one attribute pertaining to each item of information.

38. The apparatus of claim 37, wherein said attribute is the contents of the item of information.

39. The apparatus of claim 36, wherein said ranking means produces a formula which predicts the interest of a user in an item of information on the basis of at least one of a user profile and an attribute related to that item of information.

40. A method, comprising:

storing a plurality of content records;

storing a persistent user-specific profile;

receiving a user request for content records;

relating content records with a stored user profile; and

presenting to the user the related content records.

41. The method according to claim 40, for providing information to users of a computer system, wherein:

said content record storing step comprises storing items of information in an unstructured database within the computer system;

said user profile storing step comprises determining and storing user profiles for users of the computer system who have access to the items of information;

said receiving a request step comprises receiving a request from a user for access to the stored information;

said relating step comprises determining a user's likely degree of interest in items of information stored in said database, in accordance with that user's profile, and ranking the items of information in accordance with their determined degrees of interest; and

said presenting step comprises displaying the items of information with an indication of their relative rankings.

42. The method of claim 41, wherein said items of information are displayed in order of their ranking.

43. The method of claim 41, wherein the user profiles and the determined degree of interest in items of information are based upon at least one attribute associated with each item of information.

44. The method of claim 43, wherein said attribute is the content of the item of information.

45. The method of claim 41, further including the steps of selecting an item of information from those which are displayed, providing an indication of the user's actual interest in the selected item of information, and storing the user's indicated interest.

46. The method of claim 41, wherein the likely degree of interest is determined for all of the items of information stored in said database in response to receipt of a user's request for access.

47. A method, comprising the steps of:

automatically generating a user-specific profile representing an interest summary based on a history of access to objects; and

persistently storing the user profile in memory.

48. The method of claim 47, for providing a user with access to selected ones of a plurality of target objects and sets of target object characteristics that are accessible via an electronic storage media, where said user is connected via user terminals and data communication connections to a target server system which accesses said electronic storage media, wherein:

said automatically generating step generates at least one user target profile interest summary for a user at a user terminal, each of said user target profile interest summary being indicative of ones of said target objects and sets of target object characteristics accessed by said user; and

said storing step stores said at least one user target profile interest summary in a memory.

49. The method of claim 48, further comprising the steps of:

enabling said user to access said plurality of target objects and sets of target object characteristics stored on said electronic storage media via said user target profile interest summaries;

said step of enabling access comprising:

correlating said user target profile interest summaries, generated for said user, with target profiles generated for said plurality of target objects and sets of target object characteristics to identify ones of said plurality of target objects and sets of target object characteristics stored on said electronic storage media that are likely to be of interest to said user;

transmitting a list, that identifies at least one of said identified ones of said plurality of target objects and sets of target object characteristics, to said user; and

providing access to a selected one of said plurality of target objects and sets of target object characteristics stored on said electronic storage media in response to said user selecting an item from said list;

said step of providing access further comprising:

transmitting data, in response to said user activating said user terminal to identify said selected item on said list, indicative of said user's selection of said selected item from said user terminal to said target server via a one of said data communication connections;

retrieving, in response to receipt of said data from said user terminal, a one of a target object and set of target object characteristics identified by said selected item from said electronic storage media; and

transmitting said retrieved one of said target object and set of target object characteristics to said user terminal for display thereon to said user,

said step of automatically generating comprising:

automatically updating said user target profile interest summary for said user as a function of said target objects and sets of target object characteristics retrieved by said user.

50. The method of claim 48, wherein said automatically generating step comprises:

creating a customer profile, said customer profile indicating a respective customer's preferences for data;

monitoring a history of data objects accessed by the customer; and

automatically updating the customer profile in accordance with the content profiles accessed by the customer to automatically update the customer profile to represent the customer's preferences.

51. The method of claim 47, wherein said method is for scheduling customer access to data from a plurality of data sources,

further comprising the steps of:

creating content profiles for each data source of said data, said content profiles indicating a degree of content of predetermined characteristics in data from each data source;

said generating step comprises creating at least one customer profile for each eligible recipient of said data, said customer profile indicating a customer's preferences for data having predetermined characteristics;

monitoring which data sources are actually accessed by each recipient; and

updating, without input from each customer, each customer profile in accordance with the content profiles of the data sources actually accessed by that customer to automatically update each customer's actual preferences for said predetermined characteristics.

52. The method of claim 47, wherein said method is for scheduling customer access to video programs,

further comprising the steps of:

creating content profiles for each video program available for viewing, said content profiles indicating a degree of content of predetermined characteristics in each video program;

creating at least one customer profile for each customer of said video programs, said customer profile indicating a customer's preferences for predetermined characteristics of the video programs;

monitoring which video programs are actually viewed by each customer; and

updating, without input from each customer, each customer profile in accordance with the content profiles of the video programs actually viewed by that customer to automatically update each customer's actual preferences for said predetermined characteristics.

53. The method of claim 52, comprising the further steps of receiving customer identity information and determining from said customer identity information which customer profile to update in said updating step.

54. The method of claim 47, wherein said method is for scheduling customer access to data from a plurality of data sources, further comprising the steps of:

creating a customer profile for each customer of said plurality of data sources, said customer profile indicating a customer's preferences for predetermined characteristics of the data sources;

monitoring which data sources are actually accessed by each customer; and

updating each customer profile to reflect a frequency of selection of the data sources by customers with customer profiles substantially similar to said each customer profile.

55. An apparatus, comprising:

means for automatically generating a user-specific profile representing an interest summary based on a history of access to objects; and

a memory for persistently storing the user profile.

56. The apparatus according to claim 55, for providing a user with access to selected ones of a plurality of target objects and sets of target object characteristics that are accessible via an electronic storage media, where said user is connected via user terminals and data communication connections to a target server system which accesses said electronic storage media, comprising:

means for automatically generating at least one user target profile interest summary for a user at a user terminal, each of said user target profile interest summaries being indicative of ones of said target objects and sets of target object characteristics accessed by said user; and

means for storing said at least one user target profile interest summary in a memory.

57. The apparatus of claim 56, further comprising:

means for enabling said user to access said plurality of target objects and sets of target object characteristics stored on said electronic storage media via said user target profile interest summaries;

said means for enabling access comprising:

means for correlating said user target profile interest summaries, generated for said user, with target profiles generated for said plurality of target objects and sets of target object characteristics to identify ones of said plurality of target objects and sets of target object characteristics stored on said electronic storage media that are likely to be of interest to said user;

means for transmitting a list, that identifies at least one of said identified ones of said plurality of target objects and sets of target object characteristics, to said user; and

means for providing access to a selected one of said plurality of target objects and sets of target object characteristics stored on said electronic storage media in response to said user selecting an item from said list.

said means for providing access comprising:

means for transmitting data, in response to said user activating said user terminal to identify said selected item on said list, indicative of said user's selection of said selected item from said user terminal to said target server via a one of said data communication connections;

means for retrieving, in response to receipt of said data from said user terminal, a target object identified by said selected item from said electronic storage media; and

means for transmitting said retrieved target object to said user terminal for display thereon to said user;

said means for automatically generating comprising:

means for automatically updating said user target profile interest summary for said user as a function of said target objects and sets of target object characteristics retrieved by said user.

58. A system, comprising:

a persistent customer profile, said customer profile indicating a respective customer's preferences for data;

means for monitoring a history of data objects accessed by the customer; and

means for automatically updating the customer profile in accordance with content profiles accessed by the customer to automatically update the customer profile to represent the customer's preferences.

59. The system according to claim 58, for scheduling customer access to data from a plurality of data sources, further comprising:

content profiles for each data source of said data, said content profiles indicating a degree of content of predetermined characteristics in data from each data source;

wherein:

at least one customer profile for each eligible recipient of said data is provided, said customer profile indicating the customer's preferences for data having predetermined characteristics;

said monitoring means monitors which data sources are actually accessed by each recipient; and

said updating means updates, without input from each customer, each customer profile in accordance with the content profiles of the data sources actually accessed by that customer to automatically update each customer's actual preferences for said predetermined characteristics.

60. The system according to claim 58, for scheduling customer access to video programs received from a video head end, further comprising:

content profiles for each video program available for viewing, said content profiles indicating a degree of content for predetermined characteristics in each video program;

wherein:

at least one customer profile for each customer of said video programs is provided, said customer profile indicating the customer's preferences for predetermined characteristics of the video programs;

said means for monitoring monitors which video programs are actually viewed by each customer; and

said means for updating updates, without input from each customer, each customer profile in accordance with the content profiles of the video programs actually viewed by that

customer to automatically update each customer's actual preferences for said predetermined characteristics.

61. The system as in claim 60, further comprising:

means for transmitting said content profiles to each customer along with electronic program guide data for upcoming television viewing periods.

62. The system as in claim 60, further comprising means for inputting customer identity information and for determining from said customer identity information which customer profile to update with said updating means.

63. The system according to claim 60, for scheduling customer access to data provided by a plurality of data sources, further comprising:

means for creating a customer profile for each customer of said plurality of data sources, said customer profile indicating said customer's preferences for predetermined characteristics of the data sources;

said monitoring means monitors which data sources are actually accessed by each customer; and

said updating means updates each customer profile to reflect a frequency of selection of the data sources by customers with customer profiles substantially similar to said each customer profile.

64. The system according to claim 58, being a multimedia terminal for receiving data from a plurality of data sources, further comprising:

means for storing at least one customer profile indicating a customer's preferences for data having predetermined characteristics;

means for storing content profiles for each data source of said data, said content profiles indicating a degree of content of said predetermined characteristics in data from each data source;

means for inputting recipient identity information;

means for selecting different customer profiles which correspond to said recipient identity information in accordance with the time of day and day of the week;

processing means for relating said selected customer profiles with the content profiles for the data available from each data source to the customer at a particular time and for determining a subset of data having content profiles which most closely match said selected customer profile; and

a display guide for presenting said subset of data to said customer for selection.

65. The system as in claim 64, further comprising means for storing an electronic program guide, wherein said display guide highlights programs within said electronic program guide which correspond to said subset of data.